

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

Applicant's or agent's file reference 02/10/EST	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/IT 02/00013	International filing date (day/month/year) 14.01.2002	Priority date (day/month/year) 14.01.2002
International Patent Classification (IPC) or both national classification and IPC A47J31/04		
Applicant BARDAZZI, Bruno		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.
 - This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:
 - I Basis of the opinion
 - II Priority
 - III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV Lack of unity of invention
 - V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI Certain documents cited
 - VII Certain defects in the international application
 - VIII Certain observations on the international application

Date of submission of the demand 05.08.2003	Date of completion of this report 29.03.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer De Terlizzi, M Telephone No. +49 89 2399-7904



INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

International application No. PCT/IT 02/00013

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

3, 4	as originally filed
1, 2	filed with telefax on 16.03.2004

Claims, Numbers

1-8	filed with telefax on 16.03.2004
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Drawings, Sheets

1/1	as originally filed
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2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/IT 02/00013**

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-8
	No: Claims	
Inventive step (IS)	Yes: Claims	1-8
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1) The most relevant prior art is constituted by D1:FR-2041380, which discloses the preamble of claim 1, from which the subject matter of claim 1 differs in that the membrane is rigid with a sealing gasket arranged between the coffee machine boiler and cup, the sealing gasket including an annular incision extending along its inner peripheral edge for engaging therein an outer peripheral edge of the filter.

Consequently, the subject matter of the present claims is novel (Article 33(2) PCT).

2) A membrane rigid with a sealing gasket arranged between the coffee machine boiler and cup is not derivable from the prior art made available. The skilled man could thus not, when starting from D1, arrive at the subject matter of the present claim 1.

Consequently, the subject matter of the present claims is considered to involve an inventive step (Article 33(2) PCT).

3) Dependent claims 2-8 pertain to further embodiments of the subject matter of the independent claim 1 to which they refer and likewise meet the requirements of the PCT with regard to novelty and inventive step (Article 33(2)(3) PCT).

4) The subject matter of the present international application is considered to be industrially applicable (Article 33(4) PCT).

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DT15 Rec'd PCT/PTO 09 JUL 2004

DEVICE FOR MAKING COFFEE-CREAM FOR ESPRESSO COFFEE-MACHINES

BACKGROUND OF THE INVENTION

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The present invention relates to a device to be applied for espresso coffee machines, of the home type, which are conventionally called "moka" machines, for producing the "coffee-cream".

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As is known, to make the so-called "coffee-cream", i.e. a foamed relatively dense coffee infusion, by using coffee machines for home use is a rather difficult operation.

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In fact, for making such a coffee type, it is necessary to supply the infusion water through the powder coffee held in a powder coffee holder basket, with such a pressure and speed as to allow the aromatic parts of the coffee powder to be easily extracted.

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For achieving the above mentioned result in moka machines, devices have been already designed, but, said devices, have been found to be very complex and, which is most important, they cannot be applied on existing espresso coffee machines, but require the construction of specially designed coffee machines.

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The document FR-A-2041380 discloses a device for making a coffee cream according to the preamble of claim 1.

SUMMARY OF THE INVENTION

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Accordingly, the main object of the present invention is to provide such a constructively simple and unexpensive device which can be easily applied also to existing moka coffee machines, and which

allows to produce, by said machines, the so-called "coffee-cream".

According to the main feature of the present invention, ~~the above object is achieved as claimed in claim 1. such device comprises a membrane~~

5 made of a rubber or other elastomeric material, arranged downstream of the filter overlaying the coffee powder holding recess, said membrane comprising one or more holes of very small diameter, and/or one or more incisions, so as to provide an

10 increase of the pressure of water passing through the coffee powder, in addition to an increasing of the water speed during said passage, this result being achieved since the heated water must pass through a ~~narrowed passing port.~~

15 In particular, said incisions made through said resilient rubber or other elastomeric material membrane can have a rectilinear segment configuration, or they can define a curved pattern, or a mixed pattern, i.e. comprising both rectilinear and curved portions.

Advantageously, said membrane is so constructed as to be rigid with the sealing gasket arranged between the boiler and coffee maker in said machines.

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BRIEF DESCRIPTION OF THE DRAWING

Further objects, characteristics and advantages of the present invention will become more apparent hereinafter from the following detailed disclosure of a preferred embodiment thereof, with reference to the accompanying drawing, where:

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CLAIMS

1. A device, for application to moka coffee machines, for making the so-called "coffee-cream",
5 comprising a boiler (1) and a top cup (3), a perforated filter (5) in the bottom of said cup, whereby downstream of said filter (5) overlaying a basket element (2) for holding a coffee powder therein, is applied a membrane (7) made of rubber or
10 other elastomeric material and including one or more microholes (8), and/or one or more incisions, characterized in that said membrane (7) is rigid with a sealing gasket (6) arranged between the coffee machine boiler (1) and cup (3), said sealing gasket
15 (6) including an annular incision extending along its inner peripheral edge for engaging therein an outer peripheral edge of said filter (5).

2. A device, according to claim 1, characterized in that the microholes formed through
20 said rubber or other elastomeric material membrane have a size from 0.1 to 0.7 mm.

3. A device, according to one or more of the preceding claims, characterized in that said membrane is adapted to be deformed by the pressure applied thereon by heated water, which heated water subjects said membrane to a resilient deformation to cause said membrane to assume a bulged configuration, with an upward facing convexity, whereas the water and steam exiting from the coffee machine boiler passes with a high speed through the coffee powder arranged in said coffee powder basket element and said filter.

4. A device, according to one or more of the preceding claims, characterized in that said membrane is subjected to a pressure stress, because of its elasticity, and is so deformed as to cause 5 said microholes and/or slits therefrom to be enlarged thereby allowing a coffee and steam infusion flow to pass with a high speed therethrough.

5. A device, according to one or more of the preceding claims, characterized in that said 10 incisions have either a rectilinear or a curved configuration, or a configuration resulting from a combination of differently shaped portions thereof.

6. A device for application to espresso coffee machines, according to one or more of the 15 preceding claims, characterized in that said membrane (7) is separated from said filter.

7. A device, according to one or more of the preceding claims, characterized in that said membrane (7) operates as a resilient safety valve, 20 designed for allowing a quick passage of the coffee infusion therethrough as in said boiler a pressure corresponding to an optimum temperature for making a coffee-cream is achieved.

8. A device, according to one or more of the preceding claims, characterized in that said 25 resilient membrane, upon ending the coffee infusion flow, automatically assumes its starting arrangement, so as to close said microholes.